

VIRGINIA WILDLIFE

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ONE DOLLAR



Editor's Page

It's about this time of year that I notice how men who hunt and the women who love them start having trouble communicating with each other. It's as if the English language disintegrates into mute glares and mumbles. Every Saturday night just after dark, the excuses will start clogging up the telephone lines from country stores to the city.

"Um," the hunter shuffling around the pay phone in mud-caked boots will begin. "Could you apologize to the Millers and tell them I'm real sorry, but I'm not going to be able to make it to their Christmas party tonight? I had to help Willie pull his deer out of the woods and then we got stuck in the mud coming out, and, well . . . Tell you what, you go on and go without me—I know you'll enjoy the party . . ." Click. Another hunter bites the dust. The doghouse waits at the end of the line.

I'll never forget the story a friend told me about a deer hunter who wanted to stay a couple more days at his hunt club with his buddies. He called into work, told them he was sick, but he didn't think it wise to call home. Stupid move. Never underestimate a woman, especially a mad one. His wife figured the trick out and drove straight up to that clubhouse and hauled him home—in front of all his friends.

The smarter men work deals during hunting season. Jewels, and other such treasures work nicely, but can't be guaranteed to last the entire season. Promises like, "I swear I'll fix the bathroom faucet, clean out the attic and paint the

house once the season's over" are widely viewed with suspicion.

I have a better solution. To all those wives who lose their men to a world of guns, muddy boots, and camouflage every year, I say:

Go out there. Tell him you want a shotgun for your birthday, only you want it today. *Now.* It doesn't matter if you can't tell a shotgun from a rifle, and you can't shoulder a gun without looking goofy. You'll learn soon enough. After all, it's a proven fact that women take instruction better than men. We listen and learn. (Besides, you don't have to actually *shoot* when you're in the field, but you must carry a gun along.)

Go out there. You need to be with him, 'cause you're missing the little things that give Christmas its spirit and Thanksgiving its thanks. You're missing the cold days of welcoming sunrises on a deer stand, and your husband pulling out a pair of gloves and handing them to you saying, "Put 'em on and put your hands in your pockets. I'll carry your gun." You're missing out on things you never thought he would do unless you had to remind him to do them. You're missing the harsh whisper "don't move!" when you haven't moved a muscle for over an hour, and then feeling a gentle nudge on your shoulder when he finds a piece of chocolate in one of those bottomless pockets of his to share with you.

Go out there. Find a babysitter. Cancel the parties, the shopping, the need to wrap presents and take care of all the details your family has left you with. You need to feel the woods during the winter, and

see why your men always return home with a curious look that's exhausted and smiling and obsessed with tomorrow's sunrise. You need to join them and step into the icy mornings where you don't think you'll be able to feel your feet again ever, and feel so tired in the evenings that you can't even eat. You need to hear the laughter about missed shots and become part of the stories of the season.

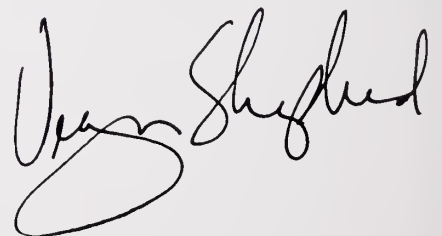
Then you can go back home. But you'll never forget. You'll catch yourself staring out the window at the gray, leafless trees on any afternoon with the sun slanting along shadows across fields, remembering.

". . . Did you see something? A big rack? How far away was he? Which way did he go? I'll tell you what: You go down to the other end of this hollow and wait. I'll drive through this thicket and see if I can push anything past you. You gonna be alright? Not too cold? You want my jacket? . . ."

Then, it will be O.K. when the phone rings. He'll start in on the excuses, mumbling again 'till you break in. "I can't hear you. Get those marbles out of your mouth. So, how big was he? What did I miss?"

You'll wish you had been there. Even so, you'll be glad to know that your second pair of eyes was out there seeing it all, swearing to bring the day back home to you.

That's the only promise he'll have to keep.



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Bobwhites; photo by Maslowski, story on p. 14.

Front Cover

The raccoon is a good example of a mammal with a prominent and well-loved tail. Learn more about the form and function of the tails of mammals on p. 4; photo by Bill Lea. Back cover: Wood ducks; photo by Maslowski.

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Tail Tales



by John Pagels

What is a tail?

We learn from the dictionary that a tail is "a prolongation of the vertebral column at the rear end of the body of an animal." Some mammals (we humans, for example) don't have such a prolongation, at least nothing to speak of. We know that among our pets and livestock, though, tails are usually prominent features, and one can quickly visualize the many kinds of tails on some of our wild species, like the short-tailed shrew, the long-tailed weasel and the hairy-tailed mole.

An animal's form (its morphology), including the form of its tail, is the result of a host of factors, not the least of which are appropriate selective pressures and the animal's evolutionary past. But there are limitations to what Mother Nature can come up with. A cow would probably be elated to have a tail that divided

somewhere near the base into left and right tails. It could then swat flies on both its left and right sides—and the dairy man's face—with one swing. But that's outside evolutionary and developmental constraints.

Nonetheless, a look at our existing species and their tails most often reveals a very nice correlation between form and function. Within limitations, a part is formed the way it is because of its function.

Presumably, the development of our kitchen utensils took thousands of years. We now have knives, forks and spoons. They have different morphologies. They have different functions.

Further, in a natural continuum, we see a nice correlation between form, function, habit, and habitat. Cows have a long tail with a hairy swatter at the end (form) so they can swat flies (function) by swinging their tails (habit) at the flies that are biting them as they stand in the barnyard (habitat). Here we take a quick look at some of the kinds of tails we see attached to mammals and their importance to the mammals that possess them.

A familiar species to start with is the deer mouse, the greeting card mouse often depicted sitting on a stump or branch—its large eyes shining, and its long, bicolored tail in great evidence. The mouse is at home

in many habitats, and its tail serves as a prop, or an organ of balance, whether the mouse be scampering across the forest floor, up a tree trunk, or simply enjoying an above ground meal in a rhododendron thicket.

The deer mouse is a member of the genus *Peromyscus* which contains about 55 species. Not all 55 of them look alike or live in the same habitat. Not unexpectedly, those species that live in forested or shrubby situations have longer tails than those living in grassland habitats. To be an outstanding climber adds a dimension to an animal's home range, or the area it travels over during its regular activities.

The deer mouse is representative of the many long-tailed species of rats and mice that can broaden the volume of their home range (that is, make it "thicker") without simply increasing the area of their home range. But, climbers aren't limited to rats and mice. Some of the best climbers are certain primates, to the point that they spend much of their life in trees. Among the best of them are certain New World monkeys, like the spider monkey, which has grasping hands and feet and a tail that is prehensile, which means it can grasp, serving much like a fifth arm and hand. Of all Virginia mammals, only the opossum, (and it's a marsupial, not a primate) has a prehensile tail (and grasping hindfeet, too) that is used for everything from climbing to carrying their young on their back—all of

*Left: Found throughout the state, the white-footed mouse (*Peromyscus leucopus*) uses its long tail for balance and its sharp claws for locking into climbing surfaces; photo by Maslowski. Below: Not only are tails important functionally to animals, but they've been handy in the naming of many species, like the short-tailed shrew, the hairy-tailed mole, and the long-tailed weasel (*Mustela frenata*) pictured below; photo by Maslowski.*



whom have their tails wrapped around Mom's tail.

Special adaptations are found among the tails of our gliding and flying forms, too. Hairs on the tails of our flying squirrels (really gliding squirrels) are directed nearly straight out to the side, forming a flattened, nearly comb-like tail. The flattened tail is adaptive in several ways. First, by being flattened it decreases drag, meaning there is less resistance to movement through the air. It also provides lift. In addition, flying squirrels use their tails as rudders, thus helping to provide maneuverability as they glide up to several hundred feet among trees.

Some of the more than 800 species of bats in the world lack tails. The tails of the 15 or so species of bats known from Virginia are rather unremarkable structures, but all have a membrane, layer of skin—called the *uropatagium* in the business, that extends from the tail to the ankle area. The tails, with their attached membranes, provide lift and serve as rudders. The tails also control the angle of flight, similar to flaps on a plane.

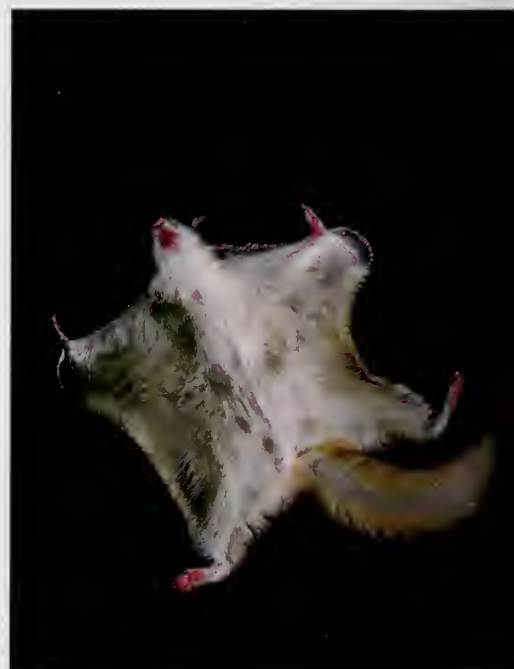
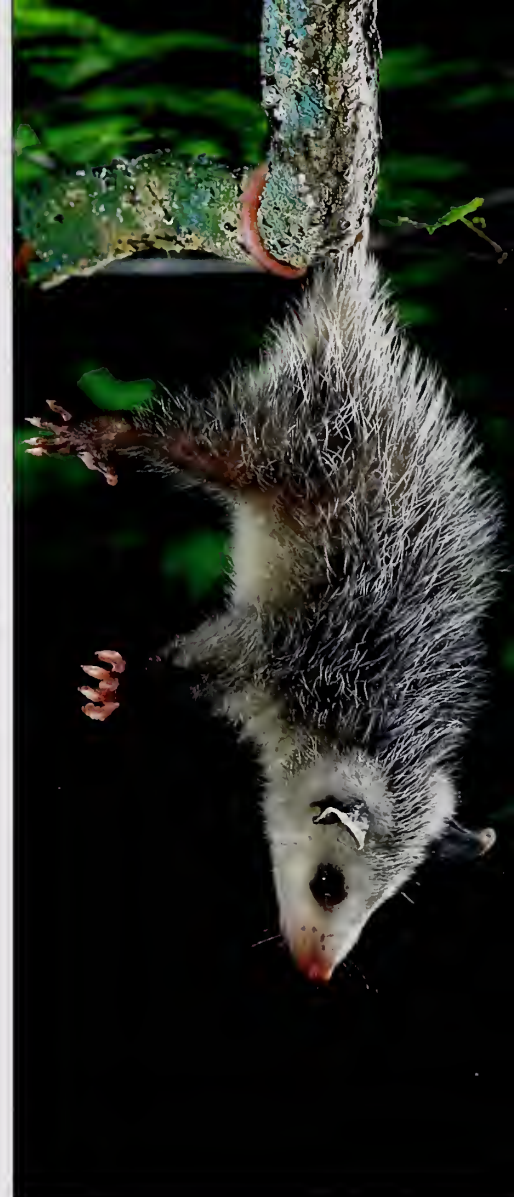
Some of the noticeable differences in the tails of our bats are a reflection of where each species roosts. There are those that roost in buildings (and probably big hollow trees in the past) and caves, and those that roost out in the trees, in the leafage. Those bats roosting in buildings and caves (the big brown bat, for example) have basically naked tail membranes. Those that roost on trees, like the red bat, have fine fur on the tail membranes. The furred membrane provides additional camouflage and presumably adds a bit of insulation when the bat curls its tail over its abdominal surface on cool days.

Getting back down to earth, tails are of great significance to jumpers. If we view a jumping animal from the right side, one can envision at take-off that the thrust of the hindlimbs produces a torque, causing the body to rotate clockwise. All things being equal, we could envision that animal flipping through the air like a hairy secondhand that's out of its clock.



As you can see in the photo above, the big brown bat (*Eptesicus fuscus*) has a tail membrane that extends from its ankle area to the tip of its tail, which provides lift, serves as a rudder and controls the angle of flight; photo by Maslowski.

Above right: The opossum (*Didelphis virginiana*) is the only Virginia mammal with a prehensile or grasping tail; photo by Maslowski. Similar to the function of the brown bat's tail, the flattened comb-like tail of the Southern flying squirrel (*Glaucomys volans*) (**below right**) provides lift, serves as a rudder and helps control the angle of flight; photo by Maslowski. The naked and laterally flattened tail of the heavily furred muskrat (*Ondatra zibethicus*) (**above far right**) can serve as a radiator to dissipate heat; photo by Gary Meszaros. The highly elongated tail of the meadow jumping mouse (*Zapus hudsonius*) (**below far right**) primarily acts as a balance to keep the animal from flipping head over heels through the air when it jumps; photo by Maslowski.





But we know that's not the case; we know that jumpers have ways of minimizing the clockwise torque. Certain kangaroos probably epitomize the jumping animal, and their body form is more or less a caricature of what it takes to be a good jumper—and not a hairy flipper. We note right away that much of the animal's weight is concentrated toward the back end, near the center of thrust. The head end, especially the chest area and anterior limbs are relatively small. But the most notable feature is the greatly enlarged and elongated tail.

Back home in Virginia, we have two species of jumping mice, both a woodland and a meadow form. Both have greatly elongated tails—tails that are more than two times longer than their body length. The position of the tail, how it's held, plays roles in all phases of the jump—take-off, the airborne phase, and landing. It also can act as a third leg. That is, along with the actual legs, the tail can be the third leg of a tripod, hence freeing up

the anterior appendages for other activities, such as manipulating food.

Perhaps the mammals with the least obvious tails are our burrowing forms and other species that spend most of their time at ground level, and confined to runways. In many burrowing forms, the tails, however small, possess hairs much like the whiskers on the face; that is, they are tactile hairs. Such hairs have receptors in the skin at their base that are stimulated when the hairs touch something, a neat adaptation to help them get around in small, dark burrows.

Anyone familiar with our bog lemmings, pine voles and meadow mice (often called field mice) recognizes animals which are very different from the deer mouse. They have small ears, small eyes, they are not as bicolored, and their tails are just not all that mousy. If enlarged, elongated, flattened, or otherwise modified, tails are important to animals that live in special habitats or have special locomotory adaptations. For these species, however, an enlarged tail might not be much more than a handle to the refrigerator—and a good meal for a fox or owl.

Among the more unusual tails are those possessed by the beaver and muskrat, two species that, except for size differences, are quite similar in appearance. Both are known for their lush, dense and nearly waterproof coats, an adaptation for their semi-aquatic existence. But their tails, except for being almost naked, are not at all alike. They differ both in form and in function. The muskrat's tail is long, and compressed—that is, flattened from the sides. Although it is sometimes suggested that it provides a small amount of propulsion by a sculling action, it's largely just dragged along. The muskrat's tail does seem to act as a rudder during turning.

Because of the beaver's popularity in children's books (indeed, in all kinds of media), everybody early on is familiar with its broad, flat, paddle-like tail. Its tail may have many functions—but paddling the beaver is not one of the critical ones. The





In addition to a warning role, the tail of the Virginia whitetail (*Odocoileus virginianus*) confuses predators keying in on the white underside of its tail. The animal often drops its tail when changing direction, pulling the old “now you see me, now you don’t” trick; photo by Mark Wallner. The tail of a beaver (*Castor canadensis*), on the other hand, serves as a warning device when slapped on the water, and also seems to serve as a convenient kind of stool for the animal as it gnaws on a tree; photo by Maslowski.



primary organs of propulsion are the large, webbed hindfeet. The beaver does, when frightened and swimming rapidly, use its tail in an undulating fashion to assist, or even to take over for its hindfeet. We know, too, that the beaver’s tail is an important sound-producing organ. Anybody who has taken a stroll along a moonlit stream, and then heard the rifle-like crack of a beaver’s tail slapping the water, remembers that it took awhile for the heart rate to get back down to normal. All persons and beavers in the area are soundly warned. And the tail has other uses, including serving as a prop, actually a stool of sorts, as they more or less squat there gnawing on a tree. Beavers can even walk upright in a bipedal fashion for short distances. Sometimes they carry mud held against their chest by their chin and front legs and hands. As you’d guess, during such activity the tail provides some support.

Tails sometimes have other functions which are much less obvious

than those relating to locomotion. Tails can be important organs of temperature regulation. We know that if we’re too active on even the coldest days of the year, we’ll start to heat up and we have to either ease up or take action to get rid of excess heat. We might get rid of the big, insulated gloves, or remove a layer of clothing. Wild mammals can’t do that. But, by dilation of the blood vessels—and increased blood flow—in the extremities, especially in a naked tail, heat can be lost to the outside and overheating can be avoided. The tail acts as a radiator.

Finally, we can end with a couple of Virginia mammals with the word “tail” in their name: the Eastern cottontail (rabbit), and the white-tailed deer (or, as we more affectionately call them, the cottontail and white-tail). Both are highly important game animals, and both are fun to see. Most often, though, the part of them that we see as they run through forest and old field is the bright, white underside of the tails. We know we

could just as well call them “now you see me—now you don’ts.” And that’s what it’s really all about. The cottontail can lower its tail, but generally the tail disappears, and then sometimes reappears, as the rabbit runs away in a somewhat zig-zag fashion. The deer when disturbed raises its tail like a flag, better to warn its fellow deer. But when it charges away, its camouflaged body blends in with the background. We and other predators, such as a mountain lion, key in on the tail. But suddenly, when the tail is lowered, or the deer changes directions, the white patch is gone—and momentarily, the deer is gone. The animal thus gains an advantage of a step or two or three on its predator. It lives. And that brings us back to the beginning of this tale. “An animal’s form is the result of a host of factors, not the least of which are selective pressures and the animal’s evolutionary past.” □

John Pagels is a biologist at Virginia Commonwealth University who specializes in Virginia mammals.



Slipping Back in Time—
With Black Powder



Denny Pence in the field;
photo and overleaf by Bill
Cochran.

by Bill Cochran

When Virginia established its first modern muzzle-loading season back in the early 1970s, Denny Pence jumped at the chance to hunt deer with a black-powder rifle. It wasn't so much that he had a fascination with the firearms and the romance of another century. He simply saw it as a vehicle for spending more time in the woods doing what he likes best, hunting.

That soon was to change.

Denny ordered a \$65 rifle-making kit, built a caplock gun and killed a deer. It was a thrill of a lifetime, but soon he realized that the gun was junk. He had robbed himself of the joy of really turning back the clock to fully savor a period when men were tough and lived off the land by their wits and skills, and could read nature like people nowadays interpret the colorful graphs that flash on computer screens. He was fascinated by the fact that while a firearm was the provider and the protector of the frontiersman, it also was his personal companion. Gunsmiths took the time to express their pride and artistic talents in stocks made like hand-rubbed furniture, in raised carvings, of animals and geometric figures, in tasteful inlays of brass, pewter and silver. Denny, a machinist who lives in the Covington area, was captivated.

Before long, he had sold his modern firearms, and although the early muzzle-loading season of the 70s was phased out, he continued to stalk game with black-powder rifles and shotguns, not the cheap-kit kind, but fine guns

Denny Pence has found the simplistic life of the mountain man and his black-powder gun to his liking. It's a way of living that tests the patience and the skill of a sportsman.



Denny Pence of Covington, VA makes his own muzzle-loading rifles from scratch and refurbishes vintage rifles. Each gun takes from two to three years for him to complete, and although he sells and trades his guns, he would much rather teach someone how to build a gun than to build one for them; photos by Pels.



he'd built from scratch or vintage originals he'd refurbished.

With the early season reinstated for November 12-17 this year, Denny anticipates the influx of a new decade of muzzle-loading hunters. He hopes many of them will make the same evolution he did, from viewing the season as just another opportunity to kill a deer to adopting the spirit of an era in history when some of the most skillful outdoorsmen of all time roamed North America.

"We put too much emphasis on how many deer we kill," he reflected one day not long ago while entertaining a visitor on the porch of his home, a stately structure of hewed logs shaded by walnuts and maples which someday might make gun stocks. "We tend to say, 'well, this hunter kills two deer every year,' or even three now. But how he goes about it means more than how many. If a guy kills a deer with a flintlock or a bow, you know he has worked harder to get that deer. The deer you work hardest to get stand out most in your memory."

Saying that, his thoughts immediately reflected on an 1780s-style flintlock which he crafted unhurriedly from Alleghany County walnut and bits of steel, including junked automobile parts. It is a personal favorite.

"I killed my first flint turkey with it and I killed my first flint deer with it. I will never sell it, even though I think my workmanship has passed this stage."

Denny has seen a progression of his work, with thick, straight stocks giving way to slender designs often bearing a graceful droop and a crescent-shaped buttplate. The work draws many visitors to his shop, which is a sun-brightened room on the end of his home with wide hardwood floors and high rafters that give it the look and feel of antiquity. Some come to bargain for a handmade gun, and price seldom enters the discussion. A few are willing to pay \$1,000 just to get a stock with the right curl in the grain.

Denny calls himself a hobby gun maker. It is a labor of love, not to be hurried any more than you would

rush the making of fine wine.

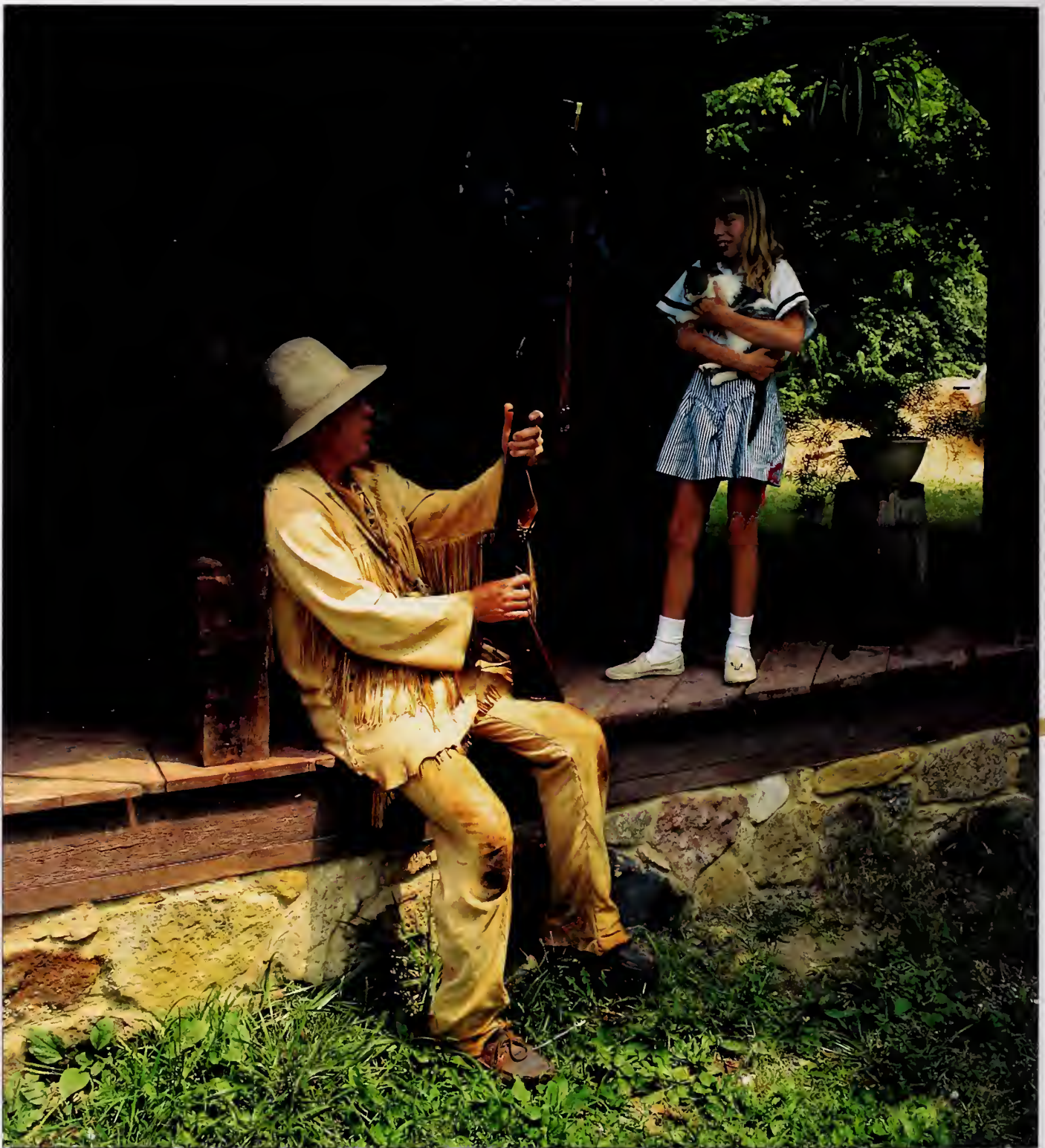
"Most people expect me to build a gun a week," he says with a look of puzzlement. In fact, it takes just that. Denny once timed his efforts and learned he had 44 hours of labor in a rifle, no looking up or talking, just work. But he doesn't craft guns with a marathon's intensity. He works on two or three at a time, setting them aside often on dowels that secure them to the wall, where he gives them a critical eye every time he looks up from his work bench. For most, it is a two- to three-year process.

He prefers to build guns for himself, for his own satisfaction, for hunting and, maybe, trading. "I would much rather have someone build a gun himself than to come here and ask me to build a gun. I will show them how and get them started."

Trading is as synonymous with the black-powder era as is gun building and hunting. For Denny, it isn't just something done in his shop, but occasionally during rendezvous, which are re-enactments of the fur trading days of the early 1800s. It is then he dons buckskins and sleeps on colorful Hudson Bay blankets inside a primitive tent that looms bone white when the first light of day gives it shape. His guns, displayed on trading blankets that sink into soft grass, go for about \$1,000. The original mountain man would pay \$13 to \$15 for a similar piece. One of those originals in decent condition and signed could go anywhere from \$10,000 to \$50,000 on today's market. "A lot of those people died as paupers," an amazed Denny will tell you.

Such realizations leave him with no haunting feelings of being born too late. "When times were good, I would like to have tried it," he said of the mountain man period. It was a time when outdoorsmen stalked the western wilderness with the skill of a predator, trapping the plentiful beaver that swam in streams born on snow-capped peaks. Their muzzle-loading gun fired their courage as certainly as it sparked their black powder.

Times were at their best during rendezvous, which occurred during



Denny Pence builds his muzzle-loaders in his log cabin home in Covington. Here, Denny Pence in the buckskins he has fashioned for the re-enactments he attends, converses with his daughter, Courtney; photo by Pels.

the heyday of the fur business, when beaver hats were the rage of men's fashions throughout Europe and civilized America. A pile of pelts would

buy enough equipment and supplies at a rendezvous for another year in the wilderness, with money left over for some hell raising. The act of trad-

ing often would be eclipsed by the need to celebrate. Just being there, having overcome bears, hostile Indians, outlaws, accidents, raging water



"When times were good, I would like to have tried it," says Denny Pence of the mountain-man period. Pence spends his free time keeping the spirit of that frontiersmen period alive by building guns and participating in rendezvous re-enactments like the one pictured above. Ronnie Thomas of Covington fires his gun while (left to right) Timmy Knick of Goshen, Denny Pence, and Chris Goerner of Roanoke look on; photo by Bill Cochran.

and disease, was no small accomplishment. The celebrating would boil over into a homespun Olympics with competition of all sorts: horse racing, tomahawk throwing, fire starting and quite naturally, marksmanship with black-powder rifles.

For the most part, life for a mountain man, for any frontiersman, wasn't a game. "It wasn't as glamorous as we tend to make it," said Denny. "The value of life was a lot cheaper then. A mountain man didn't know if he was going to be alive the next day." So, for Denny, re-enactment is enough, and the best method for living the black-powder era vicariously is by hunting with a muzzle-loader. There will be six days for that during this year's early season. That's just over one per mountain-man decade, but it is enough to brighten the life of a sportsman like Denny.

The modern hunter who chooses to go afield with a muzzle-loader in

the crook of his arm does so with a couple of handicaps, both physical and mental, Denny believes. There is the matter of limited shooting distance. After sighting in his gun, Denny does enough shooting to know where his round ball will strike at 100 yards, but most of his black-powder shots are taken at half that range or less. Getting close is part of the challenge. You either learn to be skillful at stalking or you hunt the woods where deer seldom are seen more than 50 yards. Denny is a wood's hunter, a still hunter.

"My feet get cold. I just can't stand to stay in one place. I think their (the original black-powder hunters) feet were cold, too, knowing what they wore, and they did a lot of moving, too." So you overcome distance, not by increasing your powder charge or aiming uncertainly above your target, hoping for some luck with trajectory. You do it through patience and

woodsmanship and skill.

Then there is the matter of mentally dealing with a one-shot handicap. That's basically what a black-powder rifle is, a single-shot gun which is extremely time-consuming to reload in comparison to modern firearms. It takes some adjustment for anyone born in the age of push buttons.

"I remember as a kid hunting with an 8mm and I had to go back to the house because I found that I didn't have but three shells with me," related Denny. "Most hunters who do a lot of hunting will be content with just one ball, because they are so sure they can place that in the right place."

Even in a throw-away society, you learn never to squander your first round. It is precious and the next one is of slow birth, slowest of all when you miss a deer and it continues to stand there and stare at you curiously, unspooked by the thunderous roar and the cloud of smoke from your gun. Few things are more unsettling than having to hand load your gun while a deer watches, its black nose testing the air, its big ears erect and cupped like twin satellite dishes.

"Can you imagine a guy out there with a .30-06 trying to reload on his reloading bench before the deer runs off?" Denny asks. "That's what you are doing."

So you practice. Practice loading. Practice getting the precise amount of powder down the barrel, practice seating the ball in the exact same spot, practice marksmanship. You do this, not because of the complexities of the shooting, but because of the simplicity. Black-powder guns should be shot throughout the year, Denny asserts. They aren't guns to be taken off the shelf for the first time in months on the eve of a hunt. Do that, and you've cheated both yourself and your quarry. These guns invite year-round companionship. The originals were made with that in mind, and the contemporaries should be no different. □

Bill Cochran is the outdoor editor of the Roanoke Time and World News.

Quail Don't Live on Food Alone



by Curtis Badger

When habitat biologist Steve Capel told a group of Eastern Shore hunters and landowners recently that they were wasting their time planting food plots for quail, he raised quite a few eyebrows. After all, haven't we been told for years now that modern double-cropping farming practices were robbing the birds of a vital food source, especially in late season when they need it most? And aren't the hunting magazines filled with articles evaluating the merits of different seed-producing plants favored by bobwhites? And haven't we heard the wonderful success stories of landowners who make coveys of birds appear almost magically by planting strips of custom formulated gourmet quail food?

And now here comes a habitat specialist from the Department of Game and Inland Fisheries telling us that it's all for naught? Heresy, that's what it is. Pass me the feed and seed catalog.

Steve Capel is no heretic. He studied wildlife management at Utah State and the University of Missouri, worked for the National Park Service and U.S. Fish & Wildlife Service, then spent 24 years with the Kansas Department of Game before moving to Virginia in 1988 to take over the newly-created post of habitat biologist. The kennel at his Powhatan County home holds two English setters, and he has hunted quail on a regular basis for the past 25 seasons. So his research has had practical as well as academic applications.

"I see no need for planting food plots anywhere on the coastal plain," says Capel. "There are few snow days, the winter temperatures are relatively mild, and there is plenty of waste grain and weed seed to last the birds through the winter. In the western part of the state, where the weather is more severe, a food plot

might not be a bad idea, but it would be number three or four on my priority list. It would be a lot easier just to leave a few rows of unharvested grain than to plant special food plots for quail."

Lush stands of seed-producing plants look good to the human eye—they make the landowner feel as though he's making a positive contribution—but they are not necessarily what quail really need. And in some cases food plots may do more harm than good, Capel believes.

"Quail and other wildlife are drawn to food plots, and landowners see them in the food plots and think the population is increasing, even though the covey probably was already in the neighborhood and had moved temporarily to the feeding area," says Capel. "In some cases, food strips can harm quail populations because they concentrate birds in areas where predators can get to them. Birds which feed and nest in strips of cover are much easier targets for foxes and hawks than birds which feed and nest in broader areas."

The Top Priority: Nesting and Brooding Sites

"The biggest problem quail have in Virginia is lack of nesting, brooding, and bugging sites," says Capel. "Years ago, broomsedge fields were excellent habitat areas, but in the past two decades Virginians have fallen in love with fescue, and fescue has taken over the old broomsedge patches. The broomsedge is still in those fields, and from a distance it looks like good habitat, but if you look at it closely, you'll find that in most cases fescue has colonized it, forming a thick understory and sod cover under the taller grasses. Quail don't like fescue. Quail and fescue just don't mix."

Capel says that farmers and landowners who want more quail should consider planting warm season grasses such as big blue stem and switchgrass in place of some of their fescue. "I'm not advocating eliminating fescue, but I think it has been taken to excess," he says. "Healthy habitat has a variety of grasses. Fescue is good—

There is a common myth that food plots are the answer to more bobwhites on our land. The truth is that our quail aren't suffering from a lack of food—they're in desperate need of good nesting and brooding habitat.



photo by Jerry Sims



Quail resting under corn; photo by Curtis Badger.

Bobwhite management does not begin and end with food plots. In fact, food is the least of their worries. "The biggest problem quail have in Virginia is lack of nesting, brooding, and bugging sites," says Game Department Biologist Steve Capel.



Autumn olive, a natural quail food; photo by Jerry Sims.



it's cheap, easy to grow, and provides fair forage for grazing animals. But it's not good for year-round livestock forage, and it won't support quail and rabbits. I would recommend planting one-quarter of your pasture acres in warm season grasses. Seed cost is down now, and once the plants are established they require little maintenance. You don't have to apply lime and fertilizer like you do with some grasses. If you want to create good nesting habitat on land that won't be used for grazing, I would recommend planting weeping lovegrass and coastal panicgrass along with the switchgrass."

The manner in which nesting crops are sown is just as important as the plant species chosen, says Capel. "Most people plant food and nesting cover in strips, but birds are much safer from predators in an acre of nesting cover that is 200 by 200 feet than in a strip 20 feet wide by 2,000 feet long. You have to be careful not to create an attractive death trap for the species you're trying to help."

Capel prefers to use the term nesting patch, rather than nesting strip. The patch should be adjacent to a woody or brushy area to provide an escape route. Nesting patches are most conveniently located on a remote point of farmland or on an odd-shaped piece that is hard to get to with farm machinery. Establishing nesting patches in these areas can make the farmer's job easier by squaring off the cultivated area, thus reducing the time needed to work the land and harvest the crop.

Capel's definition of prime quail habitat would be a farm with good nesting and brood-rearing habitat that offers protection from predators—an area planted in warm season grasses if it is used for pasture or maybe clover and legumes if it is not going to be hayed. The farm should have a good supply of wild food as well as agricultural products such as soybeans or other grain. And there should be some overgrown honey-suckle hedgerows in which quail can safely travel and loaf, an important amenity missing from many modern farms, which seem to equate well-

manicured fields with an efficient operation.

"The contemporary practice is to farm right up to the road or the woods edge," says Capel. "Fences should be freshly painted and the grass growing under them should be well-trimmed. The farm may look good, but it won't produce many quail."

Regaining the Edge

Establishing good nesting, brooding, and bugging areas might be Capel's priority mission but a close second would be reestablishing a farm's edge. By edge, Capel means the band of vegetation that separates the cultivated area of the farm from the surrounding woodland, roads, or house lots. On many modern farms, the edge is nonexistent.

"Quail need a corridor in which they can travel and relax," he says. "They use the edge for moving to and from nesting and feeding areas, and they'll hang out there before and after feeding along the edge of the field. The edge should not be managed for nesting and rearing—there is too great a potential for nest predation—but as a travel corridor. The birds feed along the field edge, then move along the corridor to safe areas in the woods or brush."

A proper edge would be 20 to 40 feet wide and would include perennial plants such as VA-70 shrub lespedeza, indigobush, autumn olive, crabapple, and silky dogwood.

Wildlife Management for Absentee Landowners

Along with changes in farming practices over the past 30 years have come changes in farm ownership and management. While our grandfathers owned most of the land they farmed, modern farmers are more likely to rent the majority of the acres they have under cultivation. In Virginia, an increasing amount of farmland is owned by non-farmers, most of whom either inherited the land or purchased it as an investment.

Farmers, quite understandably, are reluctant to remove rented land from cultivation to establish nesting and edge habitat for quail, especially when

the farm profit margin is precarious in the first place. And the non-farming landowner, who has neither the equipment nor the expertise to plant and manage wildlife crops, often feels justifiably frustrated when he wants to improve the lot of wildlife on his land, yet is unable to do so.

But Capel says the landowner and farmer can work together to improve the fortunes of wildlife without creating a hardship for either party. "The simplest thing a landowner can do is to negotiate with the farmer to leave a few rows of grain along the edges of the woods," say Capel. "Usually the rows along the woods edge don't yield that much anyway, so the farmer isn't losing much and it shouldn't cost the landowner greatly. If a farmer is renting pasture, the landowner can help him convert one of the pastures to warm season grasses by picking up part of the tab for the conversion from fescue. Once the warm season grasses are established, they'll produce at a high level without (lime and fertilizer) supplements, so the long-term cost is low. These grasses have another advantage in that they produce through the summer, while fescue is dormant."

A more ambitious arrangement would have the farmer leave a 20 to 40-foot untilled edge along a wooded border in exchange for a reduction in acreage covered in the rental contract. The landowner could negotiate with the farmer to periodically disc the area, or plant it to a perennial shrub such as VA-70 lespedeza with a seed drill. The landowner could plant autumn olive, crabapple, and other perennial shrubs by hand. The area should be well marked, advises Capel, to avoid the farmer's employees accidentally plowing the seedlings under.

"Farmers don't like obstacles," says Capel, "so you wouldn't want to establish any planting in an area where it would make it difficult to use large tillage or harvesting equipment. Most farmers care enough about wildlife to cooperate with landowners if they can."

Whether the farmer or the landowner does the wildlife planting on a



It is important to provide quail with nesting patches of a variety of grasses (which provide protection from predators), a nearby source of wild food, hedgerows to loaf and safely travel in, and plenty of edge; photo by Lloyd Hill.

farm, Capel stresses that the crop should be well-cared for throughout its growth cycle. "Planting for wildlife is like growing a home garden," he says. "Expectations are high when the plans are made, but you have to have a sustaining interest throughout the season. A successful gardener's garden still looks like a garden in August because he took care of it all spring and summer."

Capel warns landowners that planting and maintaining wildlife crops is not an easy task, even if you have the time and equipment to do a professional job. "Some sportsmen have

the idea they can plant a crop in March or April, then come back in November with their shotguns and have birds to shoot," he says. "Chances are they'll be less than pleased with the results if they go about it that way. Like a home garden, wildlife plantings require care and maintenance, and you need to approach the project with a long-term view, learning what works best from one year to the next." □

Curtis Badger is director of publications for the Wildfowl Art Museum of the Ward Foundation in Maryland and is a frequent contributor to Virginia Wildlife.



Turkey Feathers

Hunters often don't know whether they've killed a jake, a gobbler, or a hen during the fall season. Here are some (feather) tips that will help you.

The fall turkey hunting season opens across much of the state this month, and many hunters will be out in Virginia's woods pursuing this king of birds. But, how many will know if the trophy they bring home this fall is a young of the year bird, a hen, or a grand old gobbler? Here are some simple "feather" tips to help you identify your birds:

Age:

1. Tail feathers: The immature, first-year gobbler will still be replacing the tail feathers of his most magnificent fan. Since a turkey molts from the center feathers outward, a young bird will have longer, adult tail feathers in the center of his fan, and shorter, postjuvinal feathers on each side, giving the fan an uneven look.

The adult tom will have replaced all his tail feathers, giving his fan an even, smooth and rounded look.

2. Wing feathers: The young, first-year turkey will be molting its wing feathers from the inside feathers closest to its body out. Thus, check the outermost wing feathers. On juvenile birds in the fall, the last two wing feathers will still be postnatal, which means they will be pointed, gray, and lack definite white bars, while the other primary feathers will be more rounded and barred white almost to the tip. In fact, this clue should still be apparent on young turkeys in the spring.

3. Breast feathers: The breast feathers of the male wild turkey are glossy, smooth-edged, and tipped with black. Those of the female are duller with a frilly edge, and have a brown tip. □



Immature tail





Mature tail



Immature wing



Mature wing

Left: Note that the breast feathers of a gobbler are black and glossy and the breast feathers of the female are buff-tipped.

Photos by Roy Edwards
Illustrations by Pels



photo by Tom Evans

Sighting In— on Archery Clubs

Archery clubs are a great vehicle for learning and improving archery skills with both paper and 3-dimensional targets. There are many clubs in Virginia which sponsor tournaments and encourage beginners.



photo by Tom Evans



photo by Henry Christner

by Henry Christner

As a teenager, Bo Slaughter read outdoor magazines and dreamed about stalking a deer through the cold November woods with a bow and arrow.

That was all he could do, though. Read and dream.

Slaughter, who lived in Chesterfield County near Richmond, didn't know any bowhunters. He had no one to tell him his recurve bow was much too big, or that his arrows were the wrong size. Nor did he know how to draw the bow properly, or how to get close enough to a deer to execute an accurate shot. Then he found out about a nearby archery club, the

Dixie Bowmen. He joined up, and everything began to change.

"I learned more in the first four months of belonging to that club than I did in five years of reading magazines and books," he said.

Two decades later, Slaughter's degree of proficiency and accomplishment has improved considerably. He has turned into a successful deer hunter. He won the state indoor archery championship two years ago. And this year, he began his third stint as president of the Dixie Bowmen.

For beginners and veterans alike, membership in an active club such as the Dixie Bowmen is an excellent way to sharpen one's shooting skills, learn new hunting techniques, and enjoy the companionship of other men and women who love the sport of archery. Virginia now has 33 archery clubs, with a statewide membership of 2,058. The biggest club in the state is the Augusta Archers, with 220 members; the Dixie Bowmen club has 85 to 100 members. The parent organization is the Virginia Bowhunters Association (VBA) which is the second largest state organization in the nation. More than half the Virginia members also belong to the National Field Archery Association, based in Redlands, California.

Virginia Bowhunters Association President Clinton Western of Bedford County said the group conducts statewide field tournaments each year, and local club tournaments are held throughout the state almost every weekend from March through October. Local clubs also hold closed shoots, which are open to members only. The VBA, established in the late 1940s and reorganized in 1957, also promotes conservation, safe bowhunting, and the ethical taking of game. The group sponsors bowhunter education courses and cooperates with the Virginia Department of Game and Inland Fisheries and the Virginia Forestry Service to preserve habitat and wildlife. In addition, the association provides a \$500 scholarship each year to a student at Virginia Tech and donates \$250

annually to Camp Fantastic, for children who have cancer.

For newcomers to the sport, joining an archery club can mean getting started on the right foot.

"Before you even buy any equipment, you should join a club," said Western, a retired railroad man who belongs to the 200-member Sherwood Archers of Roanoke. "A lot of older members are usually eager to help a newcomer."

Most of the decisions to be made will be based on individual needs and goals. A compound bow or a recurve? How heavy? Do you want broadheads or field points? Arrows made of fiberglass, aluminum, or graphite? Do you need a glove? How far away do you position your practice target? The answers come much more quickly when you have someone experienced to advise you. It doesn't matter whether you are a would-be hunter or a budding field competitor.

Western and his wife, Nancy Lee, who has been state recording secretary for 23 years, have won big- and small-game awards from the national organization over the years, although neither one is an active hunter now. In most clubs, membership is usually evenly divided between bowhunters and those who are more interested in field competition.

One other function of the VBA is to see that shooting ranges at individual clubs meet national standards for distance and safety. A range must have a minimum of 14 targets, and most club ranges in Virginia have 28 targets.

The Dixie Bowmen have a 28-target shooting range in a pine woods near Colonial Heights, plus a practice range with 10 targets. Competition is divided into age groups; adults shoot at targets up to 80 yards away; youths (age 12-15), up to 50 yards; and Cubs (age 11 and 12), up to 30 yards. Targets consist of game-animal pictures affixed to hay bales, a full-size model of a white-tailed deer, and ordinary hunting targets.

The Dixie Bowmen hold six state-sanctioned shoots a year, and several

members also compete in tournaments in other districts. Club member Dennis Cline is a former national champion, and a number of other members have won state titles. Even so, most Dixie Bowmen members are hunters, not field competitors, said Slaughter. Last year, for example, the club was first in the state for the number of game animals bagged.

All that expertise notwithstanding, the club is certainly open to novices. Shane Nicely of Colonial Heights was only 11 years old when he joined the Dixie Bowmen. Now 16, he is a self-assured but still eager to learn—and to spread the word. He even talked his father, Harry Nicely, into joining the club.

Joe Elder, who first joined in 1959, said most prospective members are taken to the range and allowed to shoot awhile to get a feel for the sport. Most of the people who do join wind up enjoying not only the archery but also the special activities, such as the club banquet and the carp shoot.

Slaughter, who eventually replaced that cumbersome recurve of his youth with a compound bow, is especially aware of the difference a club can make in one's development.

"I highly recommend it to anyone," he said. "When I started 20 years ago, I didn't know anybody who bowhunted. It's good to have somebody to show you how to use the bow and tell you what you're doing right and what you're doing wrong."

"Some of our members who have 30 and 40 years of experience can take a new person out and have him shooting in three or four hours.

"If you try to do it on your own, you'll develop bad habits. It's best to do it right at the beginning."

Other benefits of membership include being exposed to the diversity of archery equipment available on the market, friendship, and enjoyment of the essence of the sport.

"Most people in the club really like to shoot the bow," Slaughter said. "Of course, you get out of it what you put into it." □

Henry Christner is an outdoor columnist for the Richmond News Leader and a freelance outdoor writer.

Join Up!

Call the president of one of the archery clubs listed below. They are all members of the Virginia Bowhunters Association.

Augusta Archers, Staunton

Mark Miller, 454 Mountain View Drive, Staunton, VA 24401, 703/885-4427.

Bowhunters of Rockingham, Harrisonburg

Philip Peterman, 1032 Chestnut Drive, Harrisonburg, VA 22801, 703/433-1544

Two Rivers Archery Club, Front Royal

Sterling Davis, 230 Homestead Ave., Front Royal, VA 22630, 703/635-5213

Loudoun Bowhunters, Hamilton

James Smith, 9180 Laurelwood Court, Manassas, VA 22110, 703/368-7811

Manahoac Bowmen, Fredericksburg

Ronnie Lewis, 10940 Catharpin Road, Spotsylvania, VA 22553, 703/786-4034

Northern Virginia Archers, Fairfax

James Little, Jr., 4525 Occoquan Overlook, Woodbridge, VA 22192, 703/590-6838

Princess Anne Bowmen, Oceana

Larry Fisher, 588 Old Post Road, Virginia Beach, VA 23452, 804/486-5630

Richmond Archers, Richmond

Harry Williams, 5988 Derwent Road, Powhatan, VA 23139, 804/375-9006

Seminole Archers, Danville

Robert Hodges, 100 El Navajo Court, Danville, VA 24540, 804/836-1734

Sherwood Archery Club, Roanoke

John VanLews, 3824 Woodleigh Road, Roanoke, VA 24017, 704/366-8065

Triangle Archers, Christiansburg

Barry Wolfe, 175 Kimball Lane, Christiansburg, VA 24073, 703/382-9160

Walton Park Bowhunters, Lynchburg

Michael Ware, Sr., Box 675, Madison Heights, VA, 804/528-3305

Warwick Bowmen, Newport News

Gail LeFever, Box 487, Ordinary, VA, 23131, 804/642-5264

Outdoorsman Archers, Martinsville

Larry Roberts, 118 Southland Drive, Martinsville, VA 24112, 703/956-4111

Blackwater Bowhunters, Rocky Mount

Michael Smith, Oak Manor, #C-7, Rocky Mount, VA 24151, 703/483-8836

Prince William Archers, Brentsville

Rodney Fowler, 12750 Old Church Road, Nokesville, VA 22123, 703/368-6815

Bearcreek Bowmen, Wise

Robert Owens, 1227 Spruce St., Norton, VA 24273, 703/679-0674

Wythe Bowhunters, Wytheville

James Goodwin, Box 822, Wytheville, VA 24382, 703/228-6285

Dickenson County Bowhunters, Clintwood

Gary Maggard, Box 822, Pound, VA 24279, 703/796-5745

New River Bowhunters, Galax

Lloyd Overfelt, 107 Aldred Lane, Galax, VA 24333, 703/236-3639

Dixie Bowmen, Colonial Heights

Bo Slaughter, 202 Fern Ave., Highland Springs, VA 23075, 804/737-9139

Buggs Island Archers, Clarksville

Mickey Baugh, Rt. 1, Box 229-E, Buffalo Junction, VA 24529, 804/374-4296

Shenandoah County Archers, Mount Olive

James Kimble, Rt. 1, Box 116, Star Tannery, VA 22654, 703/436-3825

Smyth County Archery Club, Marion

Charles Hall, Rt. 3, Box 240, Marion, VA 24354, 703/783-8840

Kingsboro Bowmen, Suffolk

Philip Kemble, 105 Gary Player Road, Portsmouth, VA 23701, 804/488-7273

Bowhunters Paradise, Jewell Ridge

Fred Christian, Rt. 63, Box 21, Jewell Ridge, VA 24622, 703/881-8977

Massanutten Archery Club, Front Royal

Hugh Tolson, Rt. 1, Box 37, Strasburg, VA 22657, 703/465-4715

Princeton Archery Club, Princeton

Steve White, Rt. 3, Box 62-A, Princeton, West VA 24740, 304/425-6023

Belvoir Bowhunters, Fort Belvoir

Robert Seltzer, 7620 Glenville Court, Springfield, VA 22309, 703/644-9708

Septa Bowmen, Smithfield

Allen Thacker, Rt. 3, Box 420, Smithfield, VA 23430, 804/357-3966

Singers Glen Bow Benders, Singers Glen

George Gumienny, Rt. 3, Box 222, Dayton, VA 22821, 703/879-9616

Staunton River Archery Club, Hurt

Hirmam Burch, Rt. 2, Box 22, Altavista, VA 24517, 804/369-5780

IWLA Cub Run Archers, Centreville

Robert Keaton, 9208 Peabody St., Manassas, VA 22110, 703/368-4085



photo by Joel Vance

Good Sense Shooting With a Muzzle-loader

If you're taking up the sport and tradition of hunting with a muzzle-loading rifle this fall, you need to prepare yourself for your own (and others') safety. Here's how.

by Jack Randolph

In the early Seventies, a few primitive weapons buffs approached the Game Department and requested a special hunting season. Their desire was to be alone in the woods, clad in buckskins and armed with muzzle-loading rifles just like those our ancestors used.

In one fashion or another this hunt has been continuing for over 15 years. But, it wasn't until last spring when the General Assembly authorized a new license for muzzle-loading hunters that the Game Department decided to give muzzle-loaders an early week of still hunting all to themselves this fall, just prior to the opening of the regular firearms deer season. There are a few restrictions to this special season, however. The early still hunt for muzzle-loaders is open only in those counties where hunting deer with big game rifles (over .22 caliber) is legal, or in those counties where muzzle-loaders are specifically permitted. In addition, hunters are required to use single-shot muzzle-loaders which are at least .45 caliber, and telescopic sights are prohibited. Both black powder and black powder substitutes are permitted. And, during this special early week, deer may not be hunted with dogs.

Hunters using muzzle-loaders for the first time are finding that they are different from conventional firearms, but, nevertheless, great fun to shoot.

Recently we talked to Yank Galderese, the proprietor of the Gun Rack in Hopewell. He specializes in older weapons and he is a black-powder buff of many years experience. He noted that most of his customers prefer black powder to the substitute because the substitute doesn't sound

the same when it goes off. Yank also notes that his customers shoot more ball ammo than the mini-balls and other patent type projectiles.

Most muzzle-loaders in use today are either flintlocks or percussion-type rifles. The flintlock rifle is fired when the trigger pull releases a hammer in which a bit of flint is clamped. The flint hits a metal piece, part of a cover (frizzen) that protects a small amount of priming powder which is in the pan. The resulting spark ignites the powder in the pan which, through a hole in the barrel, ignites the propelling charge in the barrel.

Less complicated and slightly more reliable are percussion-type rifles which evolved from flintlocks. The flintlock's pan of powder is replaced by a nipple upon which the primer-like percussion cap is placed. When the hammer hits the cap it ignites the main charge in the barrel. Percussion type rifles are the most popular type of muzzle-loaders in use today.

The most popular calibers of muzzle-loading rifles with modern hunters are .45, .50, .54 and .58 calibers. Of the four, the .50 caliber appears to be the more popular. The rifles are available in a variety of models, but they can be classed as either long rifles or shorter mountain rifles, such as the Hawken. The selection of a model is strictly a matter of picking the gun that meets your fancy.

If you purchase a new rifle, be certain to read and follow the directions that come with it. If yours is a used model, carry it to a reputable dealer and let him look it over. Don't be ashamed to ask such basic questions as what kind of powder to use and how much.

Speaking of powder, only black powder may be used safely in muzzle-loaders, with one exception. A substitute black powder, called "Pyrodex" may be used. Do not use any other powder in muzzle-loading firearms.

Black powder comes in four types: the finest ground powder, called "FFFFg" is used only as priming powder in flintlocks. The next larger

granulation, "FFFg" is used in rifles under .50 caliber. The next heavier granulation "FFg" is for use in rifles from .50 to .75 caliber. The coarsest powder, "Fg," is used in rifles of .75 caliber or larger.

Great caution should be exercised when using black powder. It can be easily set off by sparks and heat, and must be kept in a tightly sealed container. When pouring black powder from one container into another, such as a powder horn, do so in an open area.

When you get ready to load your rifle for the first time, check to make sure it isn't already loaded. To do this, withdraw the ramrod (the thin rod clamped beneath the barrel) and stick it in the barrel, letting it drop as far as it will go. With a pencil, mark the rod flush with the muzzle.

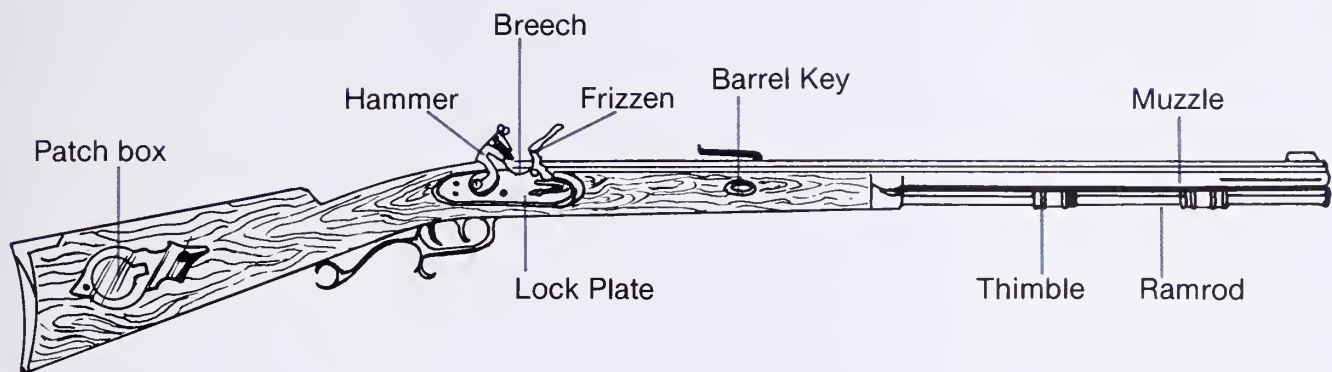
Withdraw the ramrod and lay it along the barrel with the pencil mark even with the muzzle. If the end of the ramrod reaches the flash hole (the point where the nipple enters the barrel), the gun is probably empty. If the rod doesn't go down that far, the gun is probably loaded and you had better carry it to a qualified gunsmith to check it out. It's not a good idea to try to clear an old load by firing it. You never really know for sure what someone put in that gun.

Before loading a muzzle-loader, it's a good idea to run a clean patch down the barrel to clean out any oil that may be down there. The patch, of course, is placed in the proper fitting attached to the ramrod, and it is removed from the barrel.

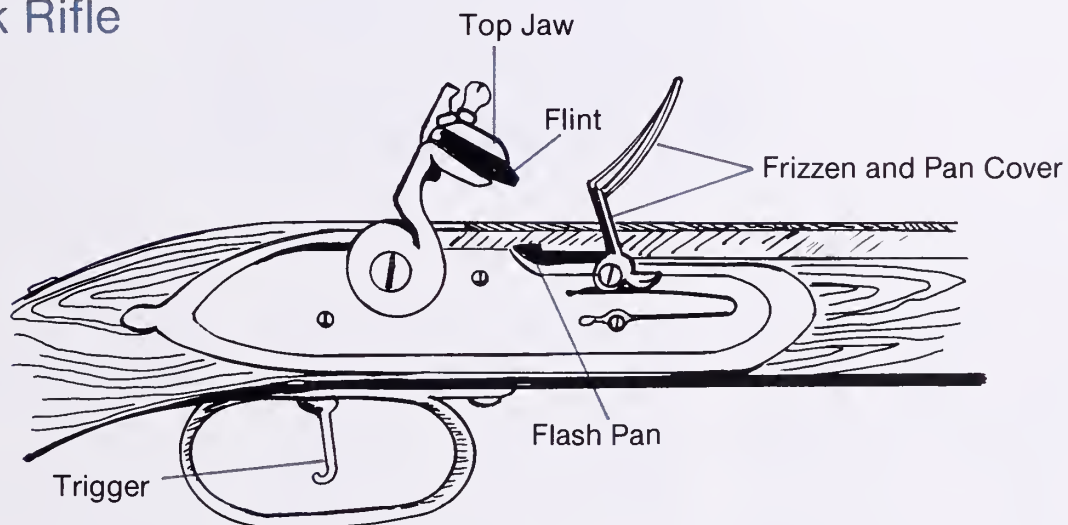
With a percussion-type rifle, the next step is to be sure the little tube from the percussion cap to the main charge is open. *Before the powder charge is placed in the gun*, fire a few caps on the nipple. Point the muzzle at a piece of paper or something that will move easily. If the paper moves when you fire a cap, the tube to the powder charge is open.

I remember a hunt in Mississippi some years ago. I had hunted hard all day without seeing a deer. Upon returning to camp I went over to the shooting area where we unloaded our muzzle-loaders by shooting them,

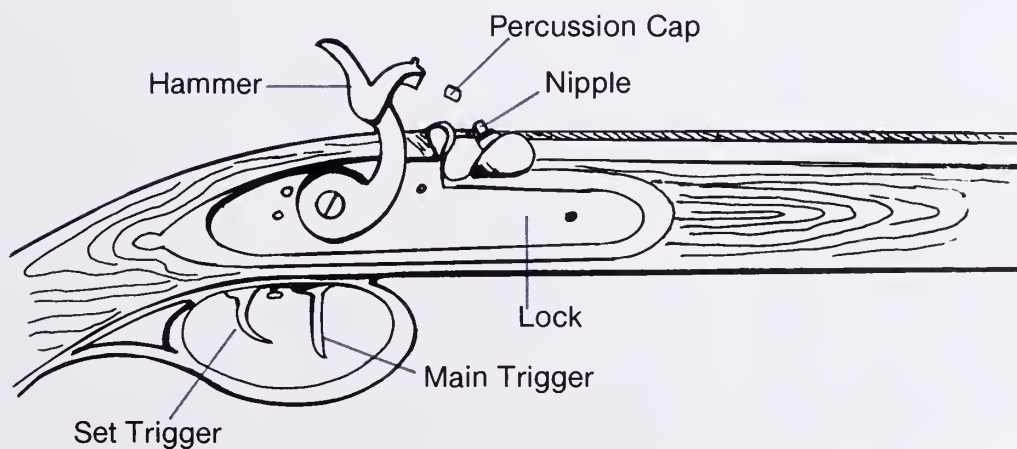
Diagram of a Muzzle-loader



Flintlock Rifle



Percussion (caplock) Rifle



which is the preferred method. When I pulled the trigger, the cap gave off its pleasant little "pop," but the charge never fired. I had to pop two more caps before the load fired. I should have popped those caps that morning before I loaded the gun.

The next accessory we need is a powder measure so we can measure the charge we are putting into the gun. Only measured loads should be placed in the gun, but before pouring the powder into the barrel, we must make sure it is safe to do so.

First, have the gun standing between your legs with the trigger guard towards you and the muzzle leaning away and up.

Second, if the gun was just fired and you are reloading, you must be aware that a live spark may still be in the barrel that could cause your new powder charge to go off. At this point you can either swab out the barrel with the ramrod and a patch or you can blow into the barrel, blowing the residue out of the flash hole. Only then should the powder charge be placed in the gun. The amount of powder should be according to the gun manufacturer's specifications. Tap the barrel to make sure all of the powder gets to the bottom.

Third, if you are using round balls as bullets, you will need a linen or cotton patch. Purchase the correct size for the caliber you are using. Lubricate the patch with a commercial patch lubricant and place it over the muzzle of the gun. Place the lead ball in the center of the patch with the place on the ball, where it was cut from the waste lead, the sprue, positioned on top.

The next tool you'll need is called a "short starter." Place the short starter on the ball and hit it with your hand. This will drive the lead ball into the barrel and wrap the patch around it. Now, place the longer rod of the short starter on the ball and tap it, driving the ball further into the barrel. When the ball has been pushed as far as the short starter reaches, use



It is important to measure each load of powder, but before pouring it into the barrel, make sure it is safe to do so; photo by Joel Vance.

the ramrod to push the ball all the way to the powder charge. Be careful to grip the ramrod near the muzzle and take care not to break it. The bullet must be seated on the powder charge. When the bullet is seated to your satisfaction, mark the ramrod at the muzzle so you will know the bullet is properly seated in the future. If you can't get the ball all the way down and have to remove it, look for an experienced shooter to help.

Shooting a muzzle-loader isn't much different from shooting any other gun, except that it's more fun. It is a short-range firearm, so sighting in at 75 or 100 yards is probably about right. The bullets will shoot somewhat further, but the trajectory is so high that long-range accuracy isn't in the cards.

According to Bud Bristow, the Director of the Department of Game and Inland Fisheries, who has hunted extensively with muzzle-loaders, the secret to accuracy is practice—not only shooting practice—but loading practice as well. If you can load the

rifle with the same amount of powder and pack it down with the same amount of pressure every time, your shooting will improve. Some shooters believe their guns shoot better when they have been "broken in." The truth is more likely that the guns shoot better when the shooter is broken in.

Bristow also points out that hunters will have to get used to dealing with the great amount of smoke a black-powder gun spews forth. You don't see your target after you fire, and there's many an anxious moment as you wait for the smoke to clear.

Bullets propelled from a muzzle-loader don't have the wallop of a modern centerfire rifle, or for that matter, a shotgun slug. For the most humane results, experienced black-powder hands aim to break the spine of the big game target instead of aiming for the points favored by shooters of conventional guns.

Primitive firearms hunters, with their one-shot guns, soon learn to be patient and wait for the best shot. There's no feeling more frustrating than missing a shot at running game and then frantically trying to reload.

We have only scratched the surface of muzzle-loading. There is so much to learn and so many safety precautions that new muzzle-loader shooters are well advised to buy and read a good book on black-powder shooting and then seek out an experienced shooter to get them over the rough spots.

Black-powder shooting has come a long way in Virginia, and no doubt there will be a lot of hunters out there participating in a fine old hunting tradition this month. The law does not require the wearing of blaze orange during the special muzzle-loader seasons, but common sense does. I know at least one guy who'll be out there wearing his blaze orange outfit, as long as there is another fella out there with a gun. □

Jack Randolph is assistant director of the Department and also an avid sportsman.

Target Shooting On The Rise

Recreational shooting sports attracted more than 1,000,000 new participants to the sport in 1988, according to figures recently released by the National Shooting Sports Foundation (NSSF).

NSSF reported that shotgun shooting, in particular, is on the rise. The 1988 edition of the *American Sports Analysis* indicates that trap and skeet shooting—with almost 5 million participants—led the way with an overall 11.1 percent increase in participation over 1987. Target shooting with a rifle and handgun recorded a jump of 4.8 percent, reaching a new high of 16,549,000 participants.

A major factor in the rise in target shooting is attributed to a growing number of women taking up the sport. A study conducted for NSSF by the National Sporting Goods Association (NSGA) indicated a 22.6 percent rate of female participation in handgun shooting, 18.2 percent for rifle and 13.9 for shotgun shooting.

The *American Sports Analysis* also measured the commitment each respondent had to their favorite sport. While cheerleading was chosen as the "favorite" by 28.1 percent of those who participate in that sport, hunting with a rifle ranked fourth with 24.9 percent, just behind golf at 26.5 percent.

Overall, the shooting sports ranked well in the "favorite sport" category and the survey revealed that hunters and target shooters on the whole are exceptionally committed to their sport. "With the problems some hunters and shooters face in finding a place to shoot, these figures are particularly encouraging," commented Dob Delfay, executive director of NSSF. "In reviewing these statistics, I'd say we have about 16 million reasons to be confident about the future of the shooting sports." □

Improve Your Shooting Skills

Sporting clays, one of the hottest sports around, is taking off in Virginia. Try the new shooting sport that simulates actual wingshooting situations at the Game Department's model sporting clays range on Amelia Wildlife Management Area 30 miles outside of Richmond.

Encompassing 105 acres near the lake on the management area, the course consists of 11 stations, each designed to test and improve the skills of the wingshooter with clay targets thrown in imitation of flying ducks, running rabbits, flushing quail and other actual hunting situations. The stations have been constructed against a natural background of trees, brush, fields, and marsh, which the shooters reach via well-marked trails through the woods.

The course is open on Fridays, Saturdays, and Sundays *by reservation only*. The fees per round are: Adults; \$15 or \$12 with valid Virginia hunting license; Youth (12-15 years): \$7.50 or \$5 with valid Virginia hunting license. Call the Game Department at 1-800-252-7717 or 804/367-1000 for reservations.

Rifle Sighting-In Range Now Open

In addition to the sporting clays range, the Department of Game and Inland Fisheries has recently completed a sighting-in range for rifles and shotguns with slugs on Amelia Wildlife Management Area. Built with safety and accuracy in mind, the range is a 6-station, benchrest-only facility, with 50 and 100-yd. target points. You may sight in any caliber rifle on the range, including black-powder rifles, along with shotguns with slugs. The range is open seven days a week from sunrise to sunset, except Mondays when the range is

closed until 12 noon for maintenance. No reservations are required. □

Voluntary Restraint Urged

With the dismal news about declining duck populations over the past three years, the North American Wildlife Foundation (NAWF) is urging all duck hunters to practice "Voluntary Restraint" again this season while out in the field. "Let the hens pass, and take satisfaction in being out on the marsh by bringing home a duck or two, instead of the legally allotted daily limit," says Charles S. Potter, Jr., Executive Vice President of the Foundation.

The Voluntary Restraint program is just that—voluntary. It is the North American Wildlife Foundation's hope, as an international organization founded in 1911 by waterfowlers, that duck hunters will once more come together and voluntarily stop short of their daily limit, in the hopes of returning breeding hens back to the prairies.

NAWF exists to expand our understanding of waterfowl and wetlands. Since 1938, through its Delta Waterfowl and Wetlands Research Station in Manitoba, it has been training biologists and discovering the critical links between waterfowl and their diminishing habitats. In addition, NAWF also operates the Prairie Farming Program, a private enterprise designed to bring together agricultural and waterfowl research expertise to pursue land use changes in the prairie pothole region.

If you agree Voluntary Restraint is a philosophy you would like to take into the blind this fall, NAWF would like to send you a full-color Voluntary Restraint decal FREE. Just send your name and address to: NAWF/VR Program, 102 Wilmot Rod. Suite 410, Deerfield, IL 60015, phone: 708/940-7776. □



The 1990 Virginia Duck Stamp and Print by Louis Frisino of a drake and hen wood duck is now available from any local art gallery or frame shop. A percentage of the proceeds will be earmarked for waterfowl habitat restoration and management in Virginia.

Virginia's wildlife by ignoring the large segment of Virginia's population that does not hunt, and thus limiting subscriptions and contributions. I hope this recognition comes soon.

Nicholas W. Kappel
Richmond

I have been a subscriber and avid fan of *Virginia Wildlife* for many years. I think that your publication is a unique and special asset to our state. I would, however, like to make a suggestion concerning the general thrust of the magazine.

I am of the opinion that a large number of current *Virginia Wildlife* readers and the great majority of prospective readers would prefer a more diverse selection of topics of articles. Perhaps a survey of your readership could determine the preferences of your current subscribers. And perhaps a marketing study can determine the potential of increasing circulation by appealing to a wider audience.

I do, in fact, realize the importance in including articles on hunting and fishing and am not suggesting that you abandon these. I am suggesting that the percentage of articles directly and indirectly related to these two avocations be reduced in favor of presenting a broader and even more appealing view of the natural wonders of this beautiful Commonwealth.

Virginians, for the most part, are intensely interested in the natural wonders of their own state and tend to vacation primarily within the state. Yours is practically the only monthly publication in print dealing with wildlife in the Commonwealth. With a proper publicity campaign I don't think you would experience any net loss in readership by a slight change in direction. In fact I think that you would see a significant increase.

I know that you are well aware of the many areas of interest you could more fully cover, but I can't resist listing a few of them to emphasize my point: endangered species, the fauna and flora of state recreation areas, photographing various species, bird-

Letters

Unhappy Subscribers

I am new to Virginia, and I think it is a beautiful state. I love the outdoors and the wilderness. A friend gave me a copy of your magazine. I must say, I have never seen so much justice and injustice done in one publication. Your story on River Friends (August 90) was great, your photos are beautiful. But have you no respect for deer? A trophy!! To take a beautiful part of our wilderness, hunt it down, shoot it, cut off its head and stick it on one's wall is so barbaric. I was truly stunned and sickened to see such horror in the middle of a magazine which in its first few pages I found enlightening and beautiful.

I hope that someday I will once again browse through the pages of your publication, but I don't feel I can do so until you earn real respect for what you call yourself—*Virginia Wildlife*.

P.S. Perhaps if you just changed your name to "Hunting and Fishing in Virginia" your publication would not be so offensive to people like me.

Julie Leftwich
Colonial Heights

Please cancel my subscription to your magazine immediately. I have tried but I find I can no longer tolerate the heavy emphasis on hunting in your magazine. I am not anti-hunting, but I choose not to hunt myself. I have friends who hunt and I very much enjoy the venison pot roast that a friend makes each year. With a degree in environmental ecology, I understand fully the role hunting plays in stabilizing certain animal populations. I just do not enjoy reading about hunting regularly. The defensive attitude of Ms. Virginia Shepherd in her monthly editorial only contributes to my displeasure in the magazine.

I enjoy most of the photographs in your magazine. (Nature photography is my primary outdoor hobby.) I will miss the fine photographs, especially those by my longtime friend Rob Simpson. What I will not miss is the attitude frequently displayed that only hunters can truly understand and enjoy wildlife.

In the future, any support for your Department will be limited to the Nongame and Endangered Species Fund. Perhaps one day you will recognize that your magazine's emphasis on hunting really does hurt your Department's overall contribution to

ing from the open canoe, areas of special ecological interest, society's impact on the survival of certain species, exploring wildlife from certain trail systems, wildlife in the greenways, urban and suburban wildlife, identifying and supporting your local wildlife.

I know that many of the above have been occasionally covered in articles over the past years and please continue such departments as "Family Outdoors" and Recipes (but how about some history and folklore on those recipes to "spice" them up)!

I suspect that funding presents a problem for you due not just to the current state of the Commonwealth's finances but also to the fact that a large percentage of financial support for your publication comes from hunting and fishing license fees. If there are problems in this area I know there must be solutions—higher subscription fees, state support, state income tax check offs (such as the current nongame wildlife one), grants from foundations, etc. Perhaps there may be alternate sources of income and aid for the periods of study and transition.

Please don't consider these suggestions in any way a criticism of your fine publication. Good luck in the future and keep up the good work.

Constantine Roussos
Arrington

I spend as much time as I can—which is hardly enough—in the woods. I like particularly dawn and dusk; the dawn for the fabulous new light that it sheds over everything; the dusk for the new life that begins to stir. I sit patiently in front of the little shelter I've backpacked into, wondering what sounds I'll hear, wondering what shadows will join the sounds, wondering what creatures will emerge from the shadows. But it never occurs to me to kill what I see.

Your suggesting that if one doesn't hunt one can't experience the 'mystique' of the wilderness is puzzling.

I'm an avid reader of *Virginia Wildlife* because that's what it's basically about; Virginia wildlife. What

we do with it once we come upon it, well, that comes under the heading of preferences. Your magazine is well written, incredibly photographed and has a very satisfying mix of articles. Even the hunting pieces are valuable, for they can lead me, say, to those woodcocks, but they don't force me to pull the trigger.

Robert Trelawny
Harrisonburg

After subscribing to your magazine for nearly 20 years, we are writing to ask you to mail the refund to the Virginia Nongame Wildlife Fund.

Recipes for roasted swan are not the sort of thing I want to see in this magazine. Since Ms. Virginia Shepherd became the editor of *Virginia Wildlife* we have seen it become more and more just for hunters. The change in philosophy has changed so much since we first saw the magazine in 1970, we can no longer recognize it. There are fewer and fewer articles dealing with the preservation of wildlife for environmental reasons, and the flora is really not emphasized the way it used to be. We also do not appreciate the slogan saying "Hunting and Fishing License Fees paid for this publication." We paid the requested subscription price! Your editorial policy and articles seem to be determined to alienate those of us in Virginia who appreciate nature but not sport hunting and other recreational activities which involve guns.

Mr. & Mrs. Thomas W. Johnson
Roanoke

We see that it's time to set the record straight again. *Virginia Wildlife* is produced by the Virginia Department of Game and Inland Fisheries, the state agency responsible for the perpetuation, conservation and management of the Commonwealth's wildlife and inland fisheries resources. We are, however, supported solely by; 1) the sale of hunting and fishing licenses and boating registration fees in the state, 2) revenues from a federal excise tax of hunting and fishing and boating equipment, and ammunition, and 3) the donations of individuals

to our nongame wildlife fund. We do not receive any general tax money from the state.

What this boils down to is that you can thank the hunters and fishermen of Virginia for taking care of the wildlife of this state for the past 70-odd years. Even the briefest look at the history of the conservation movement in this country will bear out this fact: the sportsmen and sportswomen—the hunters, the trappers, the fishermen—have footed the bill to preserve, protect, and conserve the wildlife of this nation. This is not propaganda; this is fact.

They have also supported the education of the public in understanding and cherishing Virginia's wildlife. For, as a magazine, *Virginia Wildlife* operates at a substantial deficit each year. Your subscription price covers maybe half of the cost to produce the magazine. This means that the hunters and fishermen of the state are picking up the rest of the tab, to the tune of several hundred thousand dollars per year.

Over the years, if you were to look through back issues of *Virginia Wildlife*, you would notice that the magazine has evolved from a strictly hunting and fishing magazine to a publication covering all aspects of the wildlife resource in Virginia, from natural history to conservation to sound management of species. The more we learn from the money hunters and fishermen have given us to research and manage Virginia's wildlife, the more we like to pass on to you.

We have not, nor will we, however, forget the sportsmen of this state to whom we owe our existence, our successes in restoring wildlife populations and our support. We are dedicated to the future of hunting and fishing in this state, and to nurturing that heritage through articles which promote safe and ethical hunting, trapping, fishing, and boating practices. We do not intend to reduce the number of "how-to" hunting, fishing, and trapping articles, or "where-to-hunt-and-fish" information in future issues.

We are proud of our hunting, fishing, and trapping heritage, and we will do our best here at *Virginia Wildlife* to keep it alive. We are sorry, however, if many of our subscribers have misinterpreted the focus and goal of our magazine.—Editor

Family Outdoors

Fish Ducks

by Carl "Spike" Knuth

The first real chilling cold fronts out of Canada in early November drives even some of the hardier birds southward. White-throated sparrows, juncos, siskins, grosbeaks, rough-legged hawks and even snowy owls appear overnight along the coasts, in fields and hedgerows and in parks and yards. Waterfowl like the tundra swans, snow geese, golden-eyes, buffleheads and a family of ducks known as the mergansers begin showing up on Virginia's marshes, reservoirs and large tidal rivers.

Mergansers are swift fliers, superb swimmers and excellent divers, and they feed primarily on fish. For this reason they are often called "fish ducks." Worldwide, there are nine members of the family *Mergine*. Three kinds of mergansers inhabit North America and Virginia hosts all three of them during the late fall, winter and early spring.

All the mergansers are characterized by narrow, cylindrical bills, with fine, saw-tooth or serrated edges—much like a dinner knife—which enable them to catch and grasp fish. This leads to the nickname "sawbill."

The three mergansers that winter in Virginia are the American or common merganser, the red-breasted merganser and the hooded merganser. All three merganser hens and drakes are crested, the red-breasted having a double crest and the hooded having a fan-like crest.

The hooded merganser is the smallest of the three. It is a bird of timbered waters such as slow-moving rivers and quiet swamps. It inhabits the same types of areas that nesting black ducks and wood ducks live in, but doesn't associate directly with them.

The male is black above, white below, with light, rufous-brown sides, finely waved in black. It has two black hash marks in front of its wings which are good on-the-water field

marks. Its most outstanding feature is its semi-circular white crest, which is edged in black and can be opened and shut like a fan. The female is basically brownish-gray with a brownish head and cinnamon-tinted hairy crest.

Hoodeds are expert divers and are quick and active on or under the water. They swim about buoyantly and they have a habit of jerking their heads from time to time. When they land, they drop down into open water, then swim in to shore to look for schools of small fish. If interrupted or startled, the hooded merganser reverses the process, swimming out to open water where it apparently has more confidence in its takeoff ability. Mergansers must run over the water to become airborne, although the hooded is capable of rising off of the water quickly, (but in a forward running motion rather than a "jump" like a teal or mallard).

A good population of hooded mergansers winter in the Chesapeake Bay Region in freshwater or estuarine bay marshes, river bottomlands and inland reservoirs. The Hog Island Wildlife Management Area is a good place to see them. Also look for them on smaller tree-lined impoundments such as Lee Hall, the Suffolk Lakes and Briery Creek Lake; the James, York, Pamunkey, Rappahannock, and Chickahominy Rivers, and isolated coves of big reservoirs such as Smith Mountain, Anna, Buggs Island and Philpott Lakes. They remain in Virginia until mid-February through March when spring migrations back north begin.

The red-breasted merganser has a longer neck, head and bill and shows a lot of white on its wings in flight. The adult male has a double-crested, metallic green head, a red bill, a white neck collar and a reddish-brown breast speckled with white, white flanks and a dark back. The hen is dressed in browns and grays. She has

a reddish-brown head with a whitish chin.

Look for red-breasteds in tidal estuaries, river mouths or shallows off of the beaches. They are more apt to be found in saltwater than the other two merganser species and they are perfectly at home in rough water. Good spots in Virginia are the Bay Bridge-Tunnel and the Atlantic Ocean off of False Cape, Back Bay and Chincoteague and the Barrier Islands of Eastern Shore, as well as most creeks and bays on the Chesapeake Bay.

The largest merganser is the American, which is often called the common merganser, goosander or pond sheldrake. It has a decided preference for freshwater and actually seldom comes as far south as Virginia unless weather forces it to do so. It lingers on the southern border of all the ice and snow and during mild winters, and they may never move farther south than the Great Lakes Region.

The big American merganser drake has a dark green head, white body, slightly stained with yellow on the belly, and black and white wings. The females are grayish with reddish-brown heads and a more definite white chin than the red-breasted hen. Both the American drake and hen have reddish-orange bills.

American mergansers are primarily fish eaters and will often feed in groups, driving fish into the shallows where they are easier to catch. They'll eat fish of a foot long or more, and will also feed on mussels, mollusks and crustaceans.

Look for the American merganser on large tidal rivers, below reservoir dams or in fast waters of larger rivers. The Rappahannock River below Fredericksburg is one were they have been seen and likely the Potomac hosts wintering American mergansers as well. Look for these three fish-eating cousins on the big rivers and reservoirs of the Commonwealth. □

Habitat

Chinquapin

by Nancy Hugo



Chinquapin nuts; photo by Dianne A. Jones.

I'm pretty sure I could spell chinquapin before I could spell Virginia. That's because I went to Camp Chinquapin where, before I was tall enough to pull my own arrows out of the archery target, I could sing the lyrics of this song: "C-H-I-N-Q-U-A-P-I-N spells Chinquapin. That's the place where we have our fun, rowin' a boat and shootin' a gun." Chinquapins grew all over the place, but they were especially abundant near the spot where we loaded the buses to go home each day. You didn't want to get backed into those spiny burs.

To my dismay, I recently discovered that some experts also spell the name of this shrub the way it's pronounced: Chinkapin. They obviously never went to Camp Chinquapin.

The chinquapin is a thicket-forming shrub or small tree that's been called the "little brother" of the American chestnut. Not only do its oblong toothed leaves resemble those of the American chestnut, but its fruits are round burs covered with stiff spines like those of the Ameri-

can chestnut. Unlike the American chestnut (*Castanea dentata*) which often has as many as three flattened nuts in each spiny husk, however, the chinquapin (*Castanea pumila*) usually has only one nut (shaped like a pointy topped acorn) in each bur. The chinquapin's yellow-green leaves also have a whitish downy underside that American chestnut leaves lack.

Before they were wiped out by what's been called the greatest botanical disaster in history, American chestnuts were one of the most important wildlife foods in the Eastern United States. (American chestnuts still send up sprouts from old stumps, but they are always eventually killed back.) Chinquapins, too, are susceptible to chestnut blight, but they've been much less affected by it. You can find chinquapins growing in dry woods, on rocky slopes, or along the borders of streams and swamps. They are common in much of the Southeastern United States and can be found in almost every county in Virginia.

Thickets of chinquapin provide shelter for wildlife and the edible nuts provide food for chipmunks, rabbits, deer, squirrels, foxes—and people. The husks split open in early autumn releasing the sweet brown nuts which are considered a delicacy by many woodsmen. Captain John Smith provided this account of the Indians' use of chinquapins in 1612: "They [the Indians] have a small fruit growing on little trees, husked like a chestnut, but the fruit [is] most like a very small acorne. This they call checkinquamins, which they esteem a great daintie." I've also read that the Algonquin Indians referred to the chinquapin as "chincomen," a word that means large fruit.

Although most chinquapins are shrubby (3-8' tall), they can grow to be small trees. In Arkansas and Texas, where they grow to their greatest size, their strong, hard, but easy-to-split wood is used for fence posts and railroad ties. In Virginia, our largest chinquapins seem to grow in the eastern part of the state. Two at Seashore State Park share the title of co-champions (the largest of their species in the state). One is 40' tall and 18" in trunk circumference, the other is 28' tall and 24" in circumference.

Although I haven't seen chinquapins used ornamentally, some experts recommend them, because not only do the plants have attractive foliage and edible fruit, but they adapt well to dry sites and have attractive catkins. The semi-upright stalks of whitish flowers look like tassels when they bloom in late spring or early summer. If you grow chinquapins as ornamentals, however, be sure to locate them where you won't have to brush up against the burs. He who encounters a chinquapin bur in August will not be a happy camper. □

Recipe

Ducks Are a Delicacy

by Joan Cone

Ducks should be opened and cleaned out as soon as possible. After plucking, cut off wings and split ducks up the back with a pair of kitchen shears. This makes it easier to remove any residue of lungs or congealed blood, and your ducks will have a much better flavor.

Menu:

Stracciatella Soup
Herbed Duck in Foil
Perfect Microwave Wild Rice
Sweet and Sour Red Cabbage
Persimmon-Nut Chiffon Pie

Stracciatella Soup

1 can (10¾ ounces) condensed chicken broth
1 soup can water
1 egg
2 tablespoons grated Parmesan cheese
1 tablespoon chopped parsley

In a saucepan, combine broth and water; bring to a boil. Beat egg with cheese and parsley and gradually pour into simmering soup, stirring gently until egg is set. Serve immediately. (Makes about 3 cups.)

Herbed Duck in Foil

2 large ducks
Salt and pepper
2 medium onions, quartered
1 cup Paisano red wine
1/2 cup beef broth
Marjoram leaves
Thyme leaves
Paprika
Cornstarch

Preheat oven to 350 degrees. Line an 11 x 7 x 1½-inch pan with heavy duty aluminum foil, leaving 1½-inch foil collar. Prick ducks' skin with a sharp fork. Salt and pepper duck cavities. Add onion quarters to cavities and close with skewers. Pour wine and broth into

pan. Place ducks in pan and sprinkle with marjoram, thyme and paprika. Seal pan with sheet of heavy aluminum foil the size of the baking pan and foil collar. Bake 1 hour. Remove foil from top of pan and set oven to 400 degrees. Bake 15 to 30 minutes longer or until meat thermometer registers 180 degrees. Baste occasionally with juices. Pour gravy into a small pan and skim off grease. Thicken gravy with 1 tablespoon cornstarch dissolved in 1 tablespoon of cold water until desired consistency is reached. Adjust seasoning. Serves 4.

Perfect Microwave Wild Rice Pre-Soak Method

1. Wash required amount of pure wild rice under cold, flowing water.
2. Stir rice into 3 times the amount of boiling water. (1 cup rice requires 3 cups water.)
3. Parboil for 5 minutes only
4. Remove from heat. Let soak in the same water, covered, for 1 hour.
5. Drain, wash and cook as directed in following recipe.

Microwave Wild Rice

1 cup pre-soaked wild rice
2 cups water
1 teaspoon salt
1 tablespoon butter or margarine

Combine all ingredients in a deep 2-quart covered container. Microwave on High power for 5 minutes. Reduce power to Medium-Low (30%) and microwave 45 minutes. Fluff with a fork.

Note: One cup of pure wild rice swells to about four times its size when cooked.

Sweet and Sour Red Cabbage

1 small head red cabbage (1 pound), shredded
1 medium apple, unpeeled, cored, shredded

1 small potato, peeled, shredded
1 small onion, chopped
Grated peel of 1/2 lemon
Juice of 1 lemon
3 tablespoons brown sugar
1 tablespoon red wine vinegar

In large covered non-stick skillet, cook cabbage, apple, potato and onion in 1 cup water over low heat for 15 minutes; stir occasionally. Add remaining ingredients. Cover and cook over low heat 10 minutes longer, until vegetables are tender and mixture slightly thickens. Stir often. Makes six ¾-cup servings.

Persimmon-Nut Chiffon Pie

This delicious recipe and the persimmons were given to me by Alfreda Winnings of Blackstone, VA.

1 9-inch graham cracker crust or regular pie shell, pre-baked
1/2 cup brown sugar
1 envelope unflavored gelatin
1/2 teaspoon salt
3 eggs, separated
2/3 cup milk
1 heaping cup persimmon pulp, strained
1/4 cup white sugar
1/4 cup walnuts, chopped

In a saucepan combine brown sugar, gelatin and salt. Slightly beat 3 egg yolks and mix with 2/3 cup milk. Then stir into the brown sugar mixture. Cook and stir until mixture comes to a boil; then immediately remove from heat and stir in persimmon pulp. Chill until mixture mounds slightly when spooned. This will take about 1 hour, but don't let it become too stiff. Beat the 3 egg whites until stiff peaks form and then add gradually 1/4 cup white sugar, beating until stiff peaks form. Fold the partly stiffened persimmon mixture and nuts into the egg whites and pour into crust. Chill until firm. Makes 6 to 8 servings. □

Safety

Marlinspike Seamanship

by William Antozzi, Boating Safety Officer

There are several ways to control boats; they are motors, sail, paddles, and line used as dock line, mooring lines and anchor lines.

All boaters use line in connection with boating activity, but many have not thought seriously about the proper way to use it. Line is also called rope, but not very often in the boating world.

Laid line is formed by twisting three separate strands to form useful line. Braided line is another kind which is usually fashioned from an inner braided core covered by an outer braided cover.

Nylon and dacron lines are quite popular because both can be stored while wet and do not deteriorate rapidly. Nylon is noted for its strength and elasticity. Manila line is cheap but is weak and will rot if stored wet or damp. Polypropylene line is weaker than nylon or dacron. Age and sunlight will cause it to deteriorate more rapidly than nylon or dacron and it does not stretch. One advantage to poly line is that it floats, which is an advantage when it is used around the stern of motorboats where a non-floating line might sink and get involved with propellers.

If line is to be used, knowledge of knots is essential. Good knots are easy to tie, easy to untie and will not slip or jam. One of the most common is the "square knot." When tied properly, the finished knot has the long parts of the two lines laying parallel to the two short ends. It is excellent for tying two lines together.

When a temporary loop is required in the end of a line, a "bowline" is great. Children are taught to tie it by saying, "the snake (the line end) comes out of the hole (loop), goes around behind the tree (long part of

line or "standing part") and back down into the hole (loop)." When that is done a bowline is tied. A permanent loop is tied by making an eye-splice. That is accomplished on laid-line by separating the three strands, making a line-loop and then working the three stands back into the main line (standing part) by alternately leading each one over and under the main-line (standing part) strands.

Another good knot is the "clove hitch," used for temporarily making a line fast to a piling or pole. The line is laid against the piling, wound around the piling and under itself, then taken around the piling again above the first loop and once more under itself. For added security a simple overhand knot or half hitch made with the line end around the "standing part," is advised.

An "anchor bend" or "fisherman's bend" makes a good temporary attachment of a line to an anchor. It is double-looped around the anchor chain ring where chafe may occur.

The "sheet-bend" is a knot for connecting two lines of unequal diameter. Other knots may slip and not hold in that case. It is an ugly-looking knot, but does the job.

The knots described and pictured here should be practiced until they can be consistently tied with eyes shut. They may be needed in a hurry and under adverse conditions such as darkness. Good knots hold. A knot that slips or comes undone can cause no end of trouble.

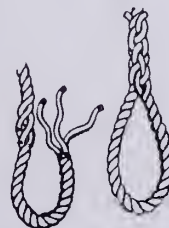
Classes taught by the state, the U.S. Coast Guard Auxiliary, or the U.S. Power Squadrons include demonstrations and practice in knot tying. □



Square Knot



Bowline



Eye-splice



Clove Hitch



Anchorbend



Sheet-bend

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